

Abstract of the Invention

The invention provides improved methods and apparatus for control using field and control devices that provide a virtual machine environment and that communicate via an IP network. By way of non-limiting example, such field device can be an "intelligent" transmitter or actuator that

5 includes a low power processor, along with a random access memory, a read-only memory, FlashRAM, and a sensor interface. The processor can execute a real-time operating system, as well as a Java virtual machine (JVM). Java byte code executes in the JVM to configure the field device to perform typical process control functions, e.g., for proportional integral derivative (PID) control and signal conditioning. Control networks can include a plurality of such field and

10 control devices interconnected by an IP network, such as an Ethernet.